Prairie Update

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Drought and excessive moisture preparedness

by Jeremy Pittman – Saskatchewan Watershed Authority

Climate extremes, particularly drought and excessive moisture, cause major challenges to agricultural production in Saskatchewan. While production practices can help manage a wide range of climate variability, the extremes remain problematic, and range from having too much water at times when it is not needed (excessive moisture) to having too little water at times when it is needed (drought).

Both excessive moisture and drought can negatively impact families, farms, businesses, communities, wildlife and watersheds. Although it is possible to estimate the general trend of climate extremes into the future, the type and exact location of occurrences cannot be forecast in advance.

This lack of predictability is why preparedness is so important: we don't know when, where, or how severe the next drought or excessive moisture event will be, but we know it is coming.

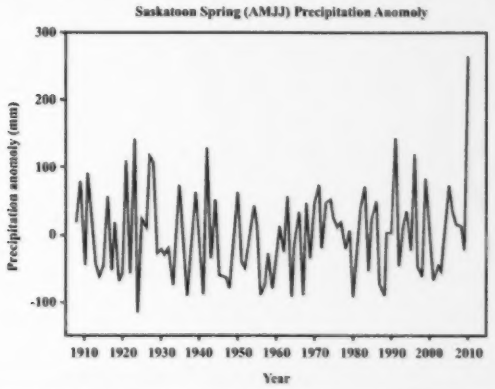

Figure 1. The difference between annual spring precipitation (April, May, June, July) received in Saskatoon and the long-term (1908-2010) average[1].

So far in 2010, weather in the Prairies has provided the perfect examples of climate extremes. As of March 31, there were areas of Saskatchewan experiencing record dry conditions[2]. Then the rain started, and the province experienced a record wet season[3].

To put things in perspective as to just how wet, precipitation received in April, May, June and July (AMJJ) at Saskatoon, Saskatchewan, has been 264 mm above the long-term average from 1908 to 2010 (see Figure 1), making the AMJJ of 2010 the wettest on record. The next wettest AMJJ on record for Saskatoon occurred in 1991, when precipitation was 143 mm above the long-term average, only half as wet as the AMJJ of 2010.

Preparing for extreme climate events requires a broad suite of management practices. In 2010, a series of workshops were held in Saskatchewan watersheds to learn firsthand how producers currently prepare for extreme events. Preparedness techniques varied between producers according to things like location, experience, access to resources, operation type and more. There were, however, some common messages:

1) **Be proactive:** taking measures to reduce your vulnerability in advance can go a long way in the event of an emergency. For livestock producers, this means ensuring you have quality water and feed where and when it counts.

2) **Know what you are going to do and do it early:** this mostly pertains to drought but can be applicable in an excessive moisture situation as well. Having a 'plan of action' in the event of a climatic disaster can promote rational decision making when managing the impacts of extreme events.

3) **Keep your options open:** the more options available, the more likely you will avert disaster. A flexible management plan can help reduce the sensitivity of your operation to extreme events that are difficult to predict.

4) **Plan how you will get back on your feet:** the impacts of extreme events usually continue for a few years after the events have passed. It is important to consider how you will rebuild your operation and what changes you will make, if any, in light of what you learned.

It is impossible to control the weather, just as it is impossible to become invulnerable to drought and excessive moisture. Practices that increase preparedness can offer 'no-regrets' solutions to some of the problems that come with extreme events. Planning in advance of crises can lead to more resilient agriculture on the Prairies.

[1]Data source: Environment Canada and Agriculture and Agri-Food Canada
[2]Drought Watch, http://www.agr.gc.ca/pfra/drought/maps/pr_wi_pc_s_e_100331.pdf
[3]Drought Watch, http://www.agr.gc.ca/pfra/drought/maps/pr_gs_pc_s_e.pdf

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Moose Jaw River Watershed Stewards host kids' Ecology Camp

by Tammy Myers – Moose Jaw River Watershed Stewards

Public education on the impacts that rural and urban activities can have on water quality is a key action outlined in the Moose Jaw River Watershed Source Water Protection Plan. To implement this key action, the Moose Jaw River Watershed Stewards (MJRWS) organized an Ecology Camp for kids.

The Ecology Camp was held in Moose Jaw's Wakamow Valley for two weeks in July 2010. The Camp's purpose was to teach children about agriculture, our environment and, of course, watersheds. The MJRWS's mission was to have kids recognize that everything in the environment works together and applies to everyday life, and if they take care of the environment, it will take care of them.

Each day began with a hike through the park, identifying different birds, trees and noxious weeds, and learning how to handle a GPS unit. Agricultural topics included information on where our food comes from and how it is produced. The kids learned about food webs and ecosystems, and how they are inter-related.

Searching for water bugs or 'critter dipping' was a favourite activity, which taught the children about pollutant tolerant and intolerant water bugs found in the Moose Jaw River. They couldn't get enough of the crayfish!

The kids were kept busy with crafts, activities, experiments and games, including making leaf tokens, pine cone bird feeders and nature art. They used their analytical skills during a water experiment, where they were given seven different clear liquids and had to determine which one was water.

To remind the kids that water does not always come from a tap and there was a time where water was hauled by hand, the kids competed in a water hauling relay. The goal was to get the most water from one bucket to the other as fast as they could. Since the camp took place during the hot days of summer, this activity was enjoyed by all!

Presentations about riparian areas and how important they are, led to an adventure walk which helped the children identify different riparian plants (good and bad) that grow in and around this 'green' zone. An experiment with cattails demonstrated how effective they are at filtering out pollutants such as oil.

Surface and ground water models were used to explain how source water can become contaminated. The kids were shown how contaminants like oil, fertilizers and sediment can affect source water, and an example used was how Moose Jaw's storm sewers discharge directly into the river every time it rains or the snow melts. The kids learned not to wash the car in the street so the dirty water does not go into storm drains and end up in the river. They also learned to always clean up after their pets and to avoid over-fertilizing the lawn, to further prevent source water contamination.

Each child built their own rain barrel to help them understand the importance of water conservation and learn about the four R's (reduce, reuse, recycle and refuse). They took the rain barrels home to use, and it has been a great summer for capturing rain water.

The Ecology Camp was a huge success with many positive comments from both kids and parents. A special thank you to supporters of the Camp:

- RBC Blue Water Project
- Shell Canada
- Agri-Environmental Services Branch
- Saskatchewan Watershed Authority
- Go Green

The Ecology Camp is a stepping stone for kids to learn how to help preserve the environment and how they can affect climate change. This hands-on approach provides a strong foundation for future learning. The more knowledge and information we provide our youth, the more empowered they will be to act on current environmental issues at home and at school, and the more likely they will be to share the vision of healthy watersheds and clean drinking water sources, now and in the future.

Watch for details about the 2011 Ecology Camp.

It's not too late to control your leafy spurge!!

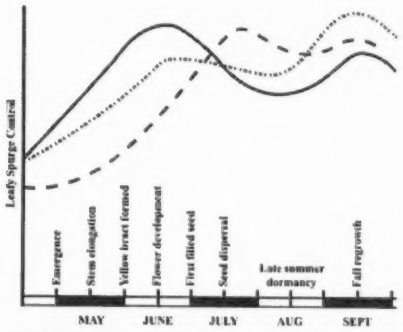
Targeting leafy spurge early in the fall can be an efficient way of protecting your grazing resource and get a jump on spring.

by Krista Connick Todd – Saskatchewan Watershed Authority

Growing conditions this summer (cooler with consistent moisture) have been ideal for leafy spurge stems to develop a small amount of new fall growth. In southern Saskatchewan, the window for fall herbicide control varies. Leafy spurge plant should have some new, late summer leaf growth. Application is most effective prior to any frost; a killing frost indicates the application window has closed.

TEAM leafy spurge, the USA committee of experts on leafy spurge, advises "(Late summer) leaf color can vary from green to yellow and red. The key is to make sure the leafy spurge leaves are still firmly attached to the stem so the herbicide can be translocated to the roots. If leaf drop has begun, it is best to wait until the following growing season before applying herbicides for leafy spurge control."

North Dakota State University has gathered information for producers about timing leafy spurge control (see graph).



Susceptibility of leafy spurge to 2, 4-D, dicamba, Paramount or Tordon (———) to glyphosate (— — —) and Plateau (- — - — - — -) during the growing season. Source: agndsu.edu

The Frenchman-Wood River Weed Management Area (WMA) is another source of information. On July 29, 2010, the WMA hosted a field day of ADOPT demonstration plots near Meyronne, Saskatchewan, showcasing the effectiveness of over 20 different herbicides and application timings. The provincial Ministry of Agriculture has partnered with the WMA to show producers integrated leafy spurge control measures, to take back to their operations.

"For fall application, Tordon at a low rate or glyphosate seems to be the most effective after this first year of the ADOPT project," says Julie MacKenzie P.Ag, Program Administrator with the WMA. "However, all vegetation will be injured or killed if sprayed with glyphosate. Wicking or wiping can save non-target plants."

All herbicides labeled for use on leafy spurge can be used in the fall at recommended rates. Please refer to The Crop Protection Guide or contact your local agrologist directly for more infestation-dependant information. The on-going results from this ADOPT demonstration site can be obtained from your local SWA agrologist. Mackenzie adds, "Producers are welcome to visit the demo site at any time. Our goal is to help show fellow producers what is cost effective and can work".

Remember that whatever you apply, whenever you choose to apply it, IT WILL NOT BE A SILVER BULLET. Check your infestation regularly for seedlings and escaped plants. For more information the WMA can be contacted at 306-264-3884.

Mark these dates in your 2011 calendar!

The Saskatchewan Prairie Conservation Action Plan (SK PCAP) invites you to attend a two-day **Native Prairie Restoration and Reclamation Workshop, February 16 – 17, 2011, Delta Hotel, Regina, Saskatchewan.**

SK PCAP brings together 31 agencies and organizations representing producers, industry, provincial and federal governments, non-government organizations and research and education institutions, all working towards a common vision of prairie and species at risk conservation in Saskatchewan. It is an important forum for guiding conservation and management efforts within Saskatchewan's prairie ecozone by:

- reducing duplication
- increasing communication and coordination amongst partners
- addressing gaps in native prairie research, activities and programming
- guiding the development of programs and policies that reward sustainable use and promote ecological health and integrity, including species at risk recovery
- improving public understanding of native prairie and species at risk.

Further information about SK PCAP and the 2011 workshop can be found online at pcap-sk.org or by emailing pcap@sasktel.net.

Hello Voluntary Stewards!

Thank you for taking the time to read this edition of the Prairie Update newsletter. We know many of you have been very busy.

Haying hasn't been easy this year considering all the rain and heavy dew and, for some, harvest has already started. In view of the unusual year we've had with regard to moisture, we thought the article on Drought and Excessive Moisture Preparedness was especially appropriate.

As always, we hope you enjoy the articles included in this newsletter, and we welcome any comments you have. Also, please remember that you can find past issues of this newsletter on our web site at www.swa.ca.

Jennifer Lohmeyer

Visit Us Online!

You can find more information on the Saskatchewan Watershed Authority's Prairie Stewardship Program in back issues of this newsletter.

These issues, as well as interactive maps featuring other stewardship project demonstration sites, can be viewed on our website, www.swa.ca.

Coming Events

For more information on stewardship events, please contact the Saskatchewan Watershed Authority office nearest you:

North Battleford	Jeremy Brown	446-7460
Regina	Etienne Soulodre	787-0661
Swift Current	Krista Connick Kelly Williamson	778-8280 778-8301
Weyburn	Stacey Gulka	848-2354
Yorkton	Jason Puckett	786-5845

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